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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/539,602	03/31/2000	John K. Lenell	36698/JFO/B600	9450

32294 7590 11/30/2004

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EXAMINER

PHILPOTT, JUSTIN M

ART UNIT PAPER NUMBER

2665

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/539,602

Applicant(s)

LENELL, JOHN K.

Examiner

Justin M Philpott

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 11-17, filed August 24, 2004, with respect to the rejection(s) of claim(s) 1-23 under 35 U.S.C. 103(a) have been fully considered and are persuasive in view of the new limitation recited in the amended independent claims 1 and 15. Specifically, the cited art may not specifically disclose a MAC "directly accessing" a data register as now recited in the amended claims. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent No. 6,636,140 to Lee et al., which teaches the limitation of a MAC directly accessing a data register as discussed in the following action.

Claim Objections

2. Claims 1 and 15 are objected to because of the following informalities: "a." and "b." in claim 1 should be changed to "a)" and b)" (or similar designation without a period), and "a.", "b.", "c.", and "d." in claim 15 should be changed to "a)", "b)", "c)", and "d)" (or similar designation without a period), respectively, since there should be only one period in a claim which is located at the end of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 4-7, 9-11, 15 and 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA) in view of text of Johnson entitled, "Detailed Guide to Fast Ethernet," (1996, Prentice Hall), further in view of U.S. Patent No. 6,636,140 to Lee et al.

Regarding claims 1, 2 and 15, AAPA teaches a communication network (e.g., see prior art FIG. 10 and pages 19-20), comprising: a) a transceiver PHY (e.g., PHY 120) communicating data packets through a communication network according to a communication protocol, the PHY having (1) a PHY controller (e.g., 122), and (2) a state data register (e.g., 124) storing data representative of a state of the communication protocol; b) a media access controller MAC (e.g., MAC 100), operably coupled with a first communication system (e.g., comprising MAC 100 and PHY 120); c) a link partner (e.g., 140) operably coupled with a second communication system (e.g., comprising 140), the link partner cooperating with the PHY controller (e.g., via 126 and 124); and d) a communication channel (e.g., 130), operably coupling the PHY (e.g., 120) with the link partner (e.g., 140).

However, AAPA may not specifically disclose a selectable communication protocol is controlled by the controller and that the MAC directly accesses the data register and is integrally coupled with the PHY.

Johnson teaches additional features for a communication network comprising a transceiver PHY and a media access controller MAC. Specifically, Johnson teaches a selectable communication protocol (e.g., selection of 10MBbps/10Base-T or 100Mbps/100Base-T

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operation, see page 113 regarding speed selection and page 170 regarding dual capability) implicitly controlled by a controller, that the registers reside in the PHY (see page 112, fourth paragraph) rather than the MAC, and that the MAC is integrally coupled with the PHY (e.g., see Figure 3.8 on page 114 with the MAC integrally coupled with the PHY). The teachings of Johnson provide a more intelligent and more flexible transceiver which is extendible to support future transceiver options for improved operation (e.g., see page 112, first paragraph). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Johnson to AAPA in order to provide a more intelligent and more flexible transceiver which is extendible to support future transceiver options for improved operation (e.g., see page 112, first paragraph).

However, AAPA in view of Johnson may not specifically disclose the MAC directly accesses the data register.

Lee teaches an improvement for a MAC interface and, specifically, discloses that the MAC directly accesses a data register (e.g., see FIGS 5, 5A and 5B along with col. 5, lines 9-53, wherein MAC 32 directly accesses register set 64 within transceiver interface 38 via TX-S and 82). The teachings of Lee provide an improvement for a MAC interface wherein the device is able to communicate both with radios incorporating functionality to generate PHY data and with radios not incorporating such functionality, providing compatibility between MAC devices and physical devices having different protocols (e.g., see col. 7, line 49 – col. 8, line 4). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Lee to the device of AAPA in view of Johnson in order to provide a MAC device that is able to communicate both with radios incorporating functionality to generate PHY data

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and with radios not incorporating such functionality, providing compatibility between the MAC device and physical devices having different protocols (e.g., see col. 7, line 49 – col. 8, line 4).

Regarding claim 4, AAPA teaches the communication protocol is defined by an IEEE Standard 802.3 communication protocol (e.g., see page 20, lines 1-11).

Regarding claims 5-7 and 18-20, Johnson teaches 802.3 protocol includes 10Base-T (e.g., see page 172), 100Base-T4 (e.g., see page 172), 100Base-TX (e.g., see page 172), 100Base-FX (e.g., see page 114, second paragraph), full-duplex (e.g., see page 113), and half-duplex (e.g., see page 113). Further, while Johnson may not specifically further disclose 100Base-T and 100Base-T2 capability, claims 5-7 were rejected in the previous office action by the Examiner taking official notice that such limitations are well known in the art for devices using IEEE 802.3, or similar, protocol. In Applicant's response to the previous office action, Applicant has not traversed the Examiner's assertion of official notice or Applicant's traverse is not adequate. Therefore, in accordance with MPEP 2144.03(C), these limitations comprise well-known art and are hereafter taken to be admitted prior art. Also, as discussed above, the teachings of Johnson provide a more intelligent and more flexible transceiver which is extendible to support future transceiver options for improved operation (e.g., see page 112, first paragraph). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Johnson to AAPA in order to provide a more intelligent and more flexible transceiver which is extendible to support future transceiver options for improved operation (e.g., see page 112, first paragraph).

Regarding claims 9, 10, 21 and 22, AAPA teaches the protocol includes autonegotiation and the device further comprises an autonegotiation controller (e.g., autonegotiation controller

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126) operably coupled to the data register (e.g., 124). Further, Johnson teaches autonegotiation selects the selectable communication protocol with state data (e.g., see pages 170-171 regarding autonegotiation). As discussed above, the teachings of Johnson provide a more intelligent and more flexible transceiver which is extendible to support future transceiver options for improved operation (e.g., see page 112, first paragraph). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Johnson to AAPA in order to provide a more intelligent and more flexible transceiver which is extendible to support future transceiver options for improved operation (e.g., see page 112, first paragraph).

Regarding claims 11 and 23, AAPA teaches the data register (e.g., link partner capability register 124) is a link partner capability register (e.g., see FIG. 10).

5. Claims 3, 8, 12-14, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA) in view of Johnson, further in view of Lee, and further in view of U.S. Patent No. 5,809,026 to Wong et al.

Regarding claims 3, 8 and 16, AAPA in view of Johnson in view of Lee teach the communication device of claims 2, 5 and 15 as discussed above, however, may not specifically disclose the PHY and the MAC are integrated on a monolithic VLSI component.

Wong also teaches a communication device comprising a PHY and MAC, and specifically, teaches the PHY and the MAC are integrated on a monolithic VLSI component (e.g., see col. 1, lines 46-55 regarding a single chip having PHY and MAC). The teachings of Wong provide PHY and MAC operation with significantly reduced cost and device size (e.g., see col. 1, lines 46-55). Thus, at the time of the invention it would have been obvious to one of

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ordinary skill in the art to apply the teachings of Wong to the device of AAPA in view of Johnson in view of Lee in order to provide PHY and MAC operation with significantly reduced cost and device size (e.g., see col. 1, lines 46-55).

Regarding claim 12, Wong teaches the device further comprises a plurality of PHY and a plurality of corresponding MAC (e.g., see FIG. 2 regarding MAC/PLS and see col. 5, lines 32-37 regarding a network of a plurality of components). As discussed above, the teachings of Wong provide PHY and MAC operation with significantly reduced cost and device size (e.g., see col. 1, lines 46-55). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Wong to the device of AAPA in view of Johnson in view of Lee in order to provide PHY and MAC operation with significantly reduced cost and device size (e.g., see col. 1, lines 46-55).

Regarding claim 13, AAPA teaches the protocol includes autonegotiation and the device further comprises an autonegotiation controller (e.g., autonegotiation controller 126) operably coupled to the data register (e.g., 124). Further, Johnson teaches autonegotiation selects the selectable communication protocol with state data (e.g., see pages 170-171 regarding autonegotiation). As discussed above, the teachings of Johnson provide a more intelligent and more flexible transceiver which is extendible to support future transceiver options for improved operation (e.g., see page 112, first paragraph). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Johnson to AAPA in order to provide a more intelligent and more flexible transceiver which is extendible to support future transceiver options for improved operation (e.g., see page 112, first paragraph). Also, as discussed above, Wong teaches the device further comprises a plurality of PHY and a plurality of

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corresponding MAC (e.g., see FIG. 2 regarding MAC/PLS and see col. 5, lines 32-37 regarding a network of a plurality of components). As discussed above, the teachings of Wong provide PHY and MAC operation with significantly reduced cost and device size (e.g., see col. 1, lines 46-55). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Wong to the device of AAPA in view of Johnson in view of Lee in order to provide PHY and MAC operation with significantly reduced cost and device size (e.g., see col. 1, lines 46-55).

Regarding claim 14, AAPA teaches the data register (e.g., link partner capability register 124) is a link partner capability register (e.g., see FIG. 10).

Regarding claim 17, AAPA teaches the communication protocol is defined by an IEEE Standard 802.3 communication protocol (e.g., see page 20, lines 1-11).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M Philpott whose telephone number is 571.272.3162. The examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on 571.272.3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Justin M Philpott



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